AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently Amended) An electrical device for generating a ~~multi-rate~~ pseudo random noise (PN) output sequence (Z_t) comprising:

a sequence generator to output a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a step control signal (S_t);

a control and selection system coupled to the sequence generator adapted to select one of said plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) from the sequence generator based on a select value (M_t), wherein said select value (M_t) is provided based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1}); and

a step control of the control and selection system adapted to provide said step control signal (S_t) to the sequence generator, wherein said step control signal (S_t) is provided based on said clock control value or signal (C_t) and said previously generated select value (M_{t-1}).

2. - 3. (Canceled)

4. (Currently Amended) ~~The electrical device according to claim 1, wherein~~: An electrical device for generating a pseudo random noise (PN) output sequence (Z_t) comprising:

a sequence generator to output a plurality of sequence values (X_{2i}, X_{2i+1}) based on a step control signal (S_t); wherein ~~said~~ the plurality of sequence values is two;

a control and selection system coupled to the sequence generator adapted to select one of the plurality of sequence values (X_{2i}, X_{2i+1}) from the sequence generator based on a select value (M_t), wherein the select value (M_t) is provided based on a clock

control value or signal (C_t) and a previously generated select value(M_{t-1}); wherein ~~said~~ the select value (M_t) is calculated as $M_t=(C_t+M_{t-1})$ MOD 2; and

a step control of the control and selection system adapted to provide the step control signal (S_t) to the sequence generator, wherein the step control signal (S_t) is provided based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}) wherein ~~said~~ the step control signal (S_t) is calculated as $S_t=(C_t+M_{t-1})$ DIV 2.

5. (Currently Amended) ~~The electrical device according to claim 1, wherein~~: An electrical device for generating a pseudo random noise (PN) output sequence (Z_t) comprising:

a sequence generator adapted to output a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a step control signal (S_t) wherein ~~said~~ the plurality of sequence values is N, where N is at least 3;

a control and selection system coupled to the sequence generator adapted to select one of the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) from the sequence generator based on a select value (M_t), wherein the select value (M_t) is provided based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1}); ~~said~~ the select value (M_t) is calculated as $M_t=(C_t+M_{t-1})$ MOD N; and

a step control of the control and selection system adapted to provide the step control signal (S_t) to the sequence generator, wherein the step control signal (S_t) is provided based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}) ~~said~~ the step control signal (S_t) is calculated as ~~$S_t=(C_t+S_t)$ DIV N~~ $S_t=(C_t+M_{t-1})$ DIV N.

6. (Previously Presented) The electrical device according to claim 1, wherein said sequence generator comprises a windmill polynomial sequence generator.

7. (Currently Amended) ~~The electrical device according to claim 6, wherein said sequence generation means comprises:~~

An electrical device for generating a pseudo random noise (PN) output sequence (Z_t) comprising:

a sequence generator to output a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a step control signal (S_t) wherein the sequence generator comprises a windmill polynomial sequence generator;

the sequence generator having a plurality of delay elements;

a step control unit receiving a next block control signal as input; and

sum elements; ~~and~~ where each said delay element is connected to another and two of them are additionally connected to themselves via a sum element[[.]];

a control and selection system coupled to the sequence generator adapted to select one of the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a select value (M_t), wherein the select value (M_t) is provided based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1}); and

a step control of the control and selection system adapted to provide the step control signal (S_t) to the sequence generator, wherein the step control signal (S_t) is provided based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}).

8. (Previously Presented) The electrical device according to claim 1, wherein said electrical device is used in a portable device.

9. (Previously Presented) The device according to claim 8, wherein said portable device is a mobile telephone.

10. (Previously Presented) The device according to claim 1, wherein said electrical device is used in a stationary communication device.

11. (Currently Amended) A method of generating a ~~multi-rate~~ PN output sequence (Z_t) comprising the steps of:

generating a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a step control signal (S_t), the method further comprising the steps of:

providing a select value (M_t), wherein said select value (M_t) is based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1});

providing the step control signal (S_t), wherein said step control signal (S_t) is based on said clock control value or signal (C_t) and said previously generated select value (M_{t-1}); and

selecting one of said plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) on the basis of the select value (M_t)[[.]]; and

outputting one of said plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) as one element of a PN output sequence (Z_t).

12. - 13. (Canceled)

14. (Currently Amended) ~~The method according to claim 11, wherein: said~~ A method of generating a PN output sequence (Z_t) comprising the steps of:

generating a plurality of sequence values (X_{2i}, X_{2i+1}) based on a step control signal (S_t), wherein the plurality of sequence values (X_{2i}, X_{2i+1}) is two[[;]], the method further comprising the steps of:

providing a select value (M_t), wherein the select value (M_t) is based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1}); wherein the ~~said~~ select value (M_t) is calculated as $M_t=(C_t+M_{t-1})$ MOD 2; and

providing the step control signal (S_t), wherein the step control signal (S_t) is based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}) and the ~~said~~ step control signal (S_t) is calculated as $S_t=(C_t+M_{t-1})$ div 2.; and

selecting one of the plurality of sequence values (X_{2i}, X_{2i+1}) on the basis of the select value (M_t); and

outputting one of said plurality of sequence values (X_{2i}, X_{2i+1}) as one element of a PN output sequence (Z_t).

15. (Currently Amended) ~~The method according to claim 11, wherein:~~ ~~said~~ A method of generating a PN output sequence (Z_t) comprising the steps of:

generating a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a step control signal (S_t) wherein the plurality of sequence values is N, where N is at least 3[[;]], the method further comprising the steps of:

providing a select value (M_t), wherein the select value (M_t) is based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1}) and wherein the ~~said~~ select value (M_t) is calculated as $M_t=(C_t+M_{t-1})$ MOD N; and;

~~said~~ providing the step control signal (S_t), wherein the step control signal (S_t) is based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}) and wherein the step control signal (S_t) is calculated as ~~$S_t=(C_t+S_t)$ DIV N~~ $S_t=(C_t+M_{t-1})$ DIV N; and

selecting one of the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) on the basis of the select value (M_t); and

outputting one of said plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) as one element of a PN output sequence (Z_t).

16. (Currently Amended) The method according to claim 11, wherein said plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) is generated by a windmill polynomial sequence generator.

17. (Previously Presented) The method according to claim 11, wherein said method is used in a portable device.

18. (Previously Presented) The method according to claim 17, wherein said method is used in a mobile telephone.

19. (Previously Presented) The method according to claim 11, wherein said method is used in a stationary communication device.

20. (New) A pseudo random noise (PN) generator, comprising:

a sequence generator module;

a control and select system module coupled to the sequence generator module;

the sequence generator module adapted to provide a plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) to the control and select system module based on a step control signal (S_t) fed into the sequence generator module from the control and select system module;

the control and select system module adapted to select one of the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) based on a select value (M_t) generated by the control and select system module wherein the select value (M_t) is generated based on a clock control value or signal (C_t) and a previously generated select value (M_{t-1});

the control and select system module being adapted to generate the step control signal (S_t) based on the clock control value or signal (C_t) and the previously generated select value (M_{t-1}); and

the control and select system module adapted to output the selected one of the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) as one element of a PN output sequence (Z_t).

21. (New) The pseudo random noise (PN) generator of Claim 20, wherein the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) is two; and

the step control signal (S_t) is calculated as $S_t=(C_t+M_{t-1})$ DIV 2.

22. (New) The pseudo random noise (PN) generator of Claim 20, wherein the plurality of sequence values ($X_{Ni}...X_{Ni+N-1}$) is N, where N is at least 3;

the select value (M_t) is calculated as $M_t=(C_t+M_{t-1})$ MOD N; and

the step control signal (S_t) is calculated as $S_t=(C_t+M_{t-1})$ DIV N.

23. (New) The pseudo random noise (PN) generator of Claim 20, wherein the sequence generator module comprises a windmill polynomial sequence generator.